



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/623,439

07/17/2003

David Welch

2333

3569

28005

7590

10/03/2007

SPRINT

6391 SPRINT PARKWAY

KSOPHT0101-Z2100

OVERLAND PARK, KS 66251-2100

EXAMINER

SMITH, MARCUS

ART UNIT

PAPER NUMBER

2616

MAIL DATE

DELIVERY MODE

10/03/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/623,439

Applicant(s)

WELCH, DAVID

Examiner

Marcus R. Smith

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 6, and 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Kamstra et al. (US 6,768,720) in view of Sarkar et al. (US 6,917,587).

with regard to claims 1 and 8, Kamstra et al. teaches (see figure 5):

A method comprising:

detecting that communication device has neither sent nor received packet-based real-time media for a threshold period of time (steps 520-560: column 5, lines 50-67 to column 6, lines 1-10); and

responsively sending from the communication device into a radio access network at least one keep alive (heartbeat) signal (step 595: column 6, lines 10-20).

Kamstra et al. discloses all of the subject matter as described above except for communication device is a wireless device. But Kamstra teaches the home network controller has a laptop computer, 160, which is portable and wireless even though shows a wired network. It shows the Home network can use a homeRF system, which is a radio (Wireless) home network (column 6, lines 40-45).

Sarkar et al. teaches system that has a wireless communication device (16, cellular telephones, PDA, other wireless devices: column 3, lines 35-55) that sends a

Art Unit: 2616

SID packet or RTCP packet as heartbeat to keep the connection active after a period of silence (column 7, lines 33-65) in order to prevent losing the connection that improves the efficiency. Since it would take a longer time to reestablished the connection, then to keep the connection active during silent periods.

Therefore it would have been obvious to one having ordinary skill in the art at the time invention was made to have the wireless communication device sending heartbeat signals as taught by Sarkar et al. in the system of Kamstra et al. in order to prevent losing the connection that improves the efficiency.

with regard to claim 2:

The method of claim 1, wherein sending at least one keep alive signal comprises periodically sending keep alive signals (column 6, lines 19-40).

with regard to claim 6, Sarkar et al. teaches:

Kamstra et al. discloses all of the subject matter as described above except for wherein the keep alive signal is an empty Real-time Transport Protocol (RTP) packet.

Sarkar et al. teaches that SID packet as an empty RTP packet since it has no data (column 7, lines 55-67) in order to prevent losing the connection that improves the efficiency.

Therefore it would have been obvious to one having ordinary skill in the art at the time invention was made to have an empty RTP packet as taught by Sarkar et al. in the system of Kamstra et al. in order to prevent losing the connection that improves the efficiency.

Art Unit: 2616

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamstra and Sarkar as applied to claim 1 above, and further in view of Wooton et al. (US 6,128,298).

Kamstra and Sarkar et al. discloses all of the subject matter as described above except for wherein the radio access network imposes a radio-link timeout period, and wherein periodically sending keep alive signals comprises of sending keep alive signals at a period that is shorter than the radio-link timeout period.

Wooton et al. teaches a method having a timeout period longer than keep alive period (column 7, lines 45-56) in order to not wait too long for a packet activity.

Therefore it would have been obvious to one having ordinary skill in the art at the time invention was made to have the SID packet period to shorter than the timeout period as taught by Wooton et al. in the system of Kamstra and Sarkar et al. in order to not wait too long for a packet activity.

4. Claims 4-5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamstra et al. and Sarkar et al. as applied to claim 1 above, and further in view of Griffen et al. (US 7,072,941).

with regard to claim 4:

The method of claim 1, wherein, the wireless communication device communicates with the radio access network over a radio-link, and wherein sending at least one keep alive signal into the radio access network comprises:

sending keep alive signals into the radio-access network in order to hold open the radio-link (column 8, lines 1-20: SID packets provides connectivity (open

communication) since it stops call manager, 14, from losing the ability to receive signaling.).

with regard to claim 5:

The method of claim 1, wherein the radio access network applies a radio-link timeout timer to a radio link assigned to the wireless communication device, and wherein the at least one keep alive signal comprises any packet-data that would cause the radio access network to reset the radio-link timeout timer (column 11, lines 5-25: Since the call resource, 12, returns back to step 46, before fourth timer period expires, it will go back to step 56 which initiates all timers. The examiner views initiating timers as method of resetting timers.).

with regard to claim 7:

The method of claim 1, wherein the radio access network provides connectivity with a packet-switched network (network, 20: column 3, lines 5-30), and wherein sending the keep alive signal into the radio access network comprises sending the keep alive signal into the radio access network for transmission, in turn, into the packet-switched network (column 8, lines 1-20: SID packets provides connectivity since it stops call manager from losing the ability to receive signaling.).

For claims 4-5, and 7, Sarkar et al. discloses all of the subject matter as described above except for radio access network connecting the device 16 to the packet switched network, 20. However, Sarkar teaches how the device 16 may be a cellular telephone or a wireless device (column 3, lines 40-42) and how the audio from the device 16 is a radio broadcast (column 3, lines 50-55).

Griffin et al. teaches a mobile terminal (100: cellular telephone, or wireless device) communicating with Packet switched Network (203: similar to network 20 in Sarkar et al.) through a wireless carrier infrastructure (202, radio access network) (column 4, lines 1-20) in order to allowed the user maximum mobility to connect to the network from anywhere.

Therefore it would have been obvious to one having ordinary skill in the art at the time invention was made to have a radio access network to connect the wireless device to packet switch network as taught by Griffin et al. in the system of Sarkar et al. and Kamstra in order to allowed the user maximum mobility to connect to the network from anywhere.

5. Claims 9-10, and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamstra et al. in view of Sarkar et al. and Griffin et al.

with regard to claims 9 and 12 :

wherein the processor is programmed to make a determination that the cellular mobile station has neither send nor received real-time media for a threshold period of time (steps 520-560: column 5, lines 50-67 to column 6, lines 1-10); and

wherein the processor is programmed to respond to the determination by sending at least one keep alive signal via the wireless communication interface into a radio access network (step 595: column 6, lines 10-20).

Kamstra et al. discloses all of the subject matter as described above except for communication device is a cellular mobile station device and whereby sending a keep alive signal into the radio access network causes the radio access network to reset a

Art Unit: 2616

radio-link timeout timer for a radio link assigned to the cellular mobile station. But Kamstra teaches the home network controller has a laptop computer, 160, which is portable and wireless even though shows a wired network. It shows the Home network can use a homeRF system, which is a radio (Wireless) home network (column 6, lines 40-45).

Sarkar et al. teaches system that has a wireless communication device (16, cellular telephones, PDA, other wireless devices: column 3, lines 35-55) that sends a SID packet or RTCP packet as heartbeat to keep the connection active after a period of silence (column 7, lines 33-65) in order to prevent losing the connection that improves the efficiency. Since it would take a longer time to reestablished the connection, then to keep the connection active during silent periods. And it also teaches resetting the timers if any packet was sent (column 11, lines 5-25: Since the call resource, 12, returns back to step 46, before fourth timer period expires, it will go back to step 56 which initiates all timers. The examiner views initiating timers as method of resetting timers.).

Therefore it would have been obvious to one having ordinary skill in the art at the time invention was made to have the wireless communication device sending heartbeat signals and resetting timers as taught by Sarkar et al. in the system of Kamstra et al. in order to prevent losing the connection that improves the efficiency.

Kamstra and Sarkar et al. discloses all of the subject matter as described above except for a wireless communication interface on the cellular mobile station and radio access network connecting the device 16 to the packet switched network, 20 of Sarkar.

Griffin et al. teaches a mobile terminal (100: cellular telephone, or wireless device) communicating with Packet switched Network (203: similar to network 20 in Sarkar et al.) through a wireless carrier infrastructure (202, radio access network) (column 4, lines 1-20) in order to allowed the user maximum mobility to connect to the network from anywhere. In Griffin et al., the mobile terminal has wireless transceiver (in the network interface, 306) (column 5, lines 23-26) in order to efficiently communicate with the wireless carrier infrastructure.

Therefore it would have been obvious to one having ordinary skill in the art at the time invention was made to have a radio access network to connect the wireless device to packet switch network and for the terminal to have a wireless interface as taught by Griffin et al. in the system of Sarkar and Kamstra et al. in order to allowed the user maximum mobility to connect to the network from anywhere and efficiently communicate with the wireless carrier infrastructure.

with regard to claim 10, Sarkar et al. teaches:

The cellular mobile station of claim 9, wherein the processor is programmed to periodically send keep alive signals into the radio access network in response to the determination (column 7, lines 55-65: The device sends a SID packet every silent period and VAD detects silence periods. Thus the SID packets will be periodical.).

with regard to claim 13, Sarkar et al. teaches:

The communication system of claim 12, wherein the packet-data that the mobile station transmits as a keep alive signal is an empty Real-time Transport Protocol (RTP)

packet (column 7, lines 55-67: the examiners views the SID packet as an empty RTP packet since it has no data.).

with regard to claim 14, Sarkar et al. teaches:

The communication system of claim 12, further comprising a communication server on the packet-switched network, wherein the mobile station is arranged to send the packet-data as a keep alive signal to the communication server (call resource, 12) (column 7, lines 60-65).

with regard to claim 15, Sarkar et al. teaches:

The communication system of claim 14, wherein the packet-data that the mobile station transmits as a keep alive signal is an empty Real-time Transport Protocol (RTP) packet (column 7, lines 55-67: the examiners views the SID packet as an empty RTP packet since it has no data.).

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Griffin et al., Sarkar et al., and Kamstra et al. as applied to claim 12 above, and further in view of Lekven et al. (US 5,884,196).

with regard to claim 16, Sarkar et al. teaches:

and the communication server (call resource, 12) is arranged to bridge voice-over-packet communications between the mobile station and one or more other stations (column 4, lines 10-20).

Kamstra et al., Sarkar et al. and Griffin et al. discloses all of the subject matter as described above except for includes a push-to-talk button.

Lekven et al. teaches a push-to-talk button to communicate with communication manager (call resource, 12) through a Radio access network to other mobile devices (column 6, lines 50-67) in order to reduce the power consumption of the mobile node (column 6, lines 5-8).

Therefore it would have been obvious to one having ordinary skill in the art at the time invention was made to use a push-to-talk button in the remote unit as taught by Lekven et al. in the system of Sarkar et al. and Griffin et al. in order to reduce the power consumption of the mobile node.

Response to Arguments

7. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

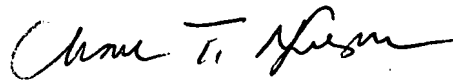
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcus R. Smith whose telephone number is 571 270 1096. The examiner can normally be reached on Mon-Fri. 7:30 am - 5:00 pm every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 571 272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MRS 9/18/07



CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600